REMARKS

Favorable reconsideration of this application in view of the amendments and the remarks to follow and allowance of the claims of the present application are respectfully requested.

In the Action, Claims 1-7, 12-17 and 22-40 are pending. Claims 1, 12, 22, 33 and 37 are independent. Claims 2-7 and 25-28 depend from Claim 1. Claims 13-17 and 29-32 depend from Claim 12. Claims 23-24 depend from Claim 22. Claims 34-36 depend from Claim 33. Claims 38-40 depend from Claim 37.

Applicant expresses appreciation to the Office of the indication that Claims 26-27, 31, and 34-35 and 39 are in condition for allowance, if placed in independent form. However, Applicant disagrees with the instant rejection of independent Claim 1, and therefore submits the following arguments for reversal of the rejection of Claim 1.

Rejection under 35 U.S.C. § 102(e)

In the Action, Claims 1-6, 12-17, 22-25, 28-30, 32-33, 36-38 and 40 are rejected under 35 U.S.C. § 102(e) as being anticipated by United States Published Patent Application No. 2006/0274917 to Ng *et al.* (hereinafter "Ng"). Applicant respectfully traverses the rejection as the cited reference does not teach or suggest the independent claims.

Claim 1 recites a traffic monitoring system that requires a pattern recognizer that identifies headlight patterns in a recognition zone within the image. Vehicles include headlights that are characterized as producing a broad segment of projected light and a narrower segment of higher intensity light. As can be seen in FIGS. 4A-4D, for example, the broad segment is shown as angle H, while the narrower segment is shown by angle B.

Claim 1 also requires that a recognition zone corresponds to a segment of a field of view of the camera wherein: (1) reflected light is received from reflection areas that is illuminated by the narrower segments of higher intensity light that are substantially diminished and (2) the projected light from the headlights is received directly.

The headlight patterns correspond to the projected light from the headlights. As can be seen in FIGS. 4A, the high intensity light (angle R) diminishes as the vehicle approaches in FIG. 4D. While in FIG. 4A, the projected light (angle H) is received directly as the vehicle approaches in FIG. 4D. This is just one example embodiment of the present disclosure, and Applicant is not limited to this embodiment.

Ng does not disclose or suggest that a recognition zone corresponds to a segment of a field of view of the camera wherein (1) reflected light is received from reflection areas that are illuminated by the narrower segments of higher intensity light that are substantially diminished and (2) the projected light from the headlights is received directly.

In contrast, Ng discloses a system for vehicle night detection that relies on peaks of intense light. See page 7, paragraph 125. The presence of a headlight is detected by deriving an intensity profile of the region of interest. This profile is performed along the entire traffic lane. From the profile, sharp peaks from the headlight can be detected and identified. Additionally, the peak from a headlight reflection is much smoother relative from the headlight, however Ng discloses that this is performed in only one dimension and not vertically and horizontally. Ng describes one-dimensional detection as being an advantage at page 7, paragraph 125, and lines 16-18.

Therefore, Ng does not disclose or suggest a recognition zone corresponding to a segment of a field of view of the camera wherein (1) reflected light is received from reflection areas that

are illuminated by the narrower segments of higher intensity light that are substantially diminished and (2) the projected light from the headlights being received directly.

The Office is incorrect where it claims that this feature is inherent at page 3, paragraph 2 of the Office Action. First, the Office has not met the Office's burden and has not spelled out a case that this limitation is met. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

The Office does not recognize all of the elements of Claim 1, and nowhere in the reference does the reference disclose or suggest detecting by splitting the headlight into the claimed intense and less intense components. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Nowhere in any reference does the reference disclose or suggest recognizing that the headlight can be split into narrow and broad segments for detection purposes. This teaching would not necessarily flow from Ng. Ng simply discloses deriving an intensity profile in one dimension and that reflected light has duller peaks, which distinguish from the sharper peaks coming from the headlight. Ng does appear to acknowledge reflected light but is not using this reflected light as claimed. Ng does not use reflective light being received from reflection areas

illuminated by narrow segments of higher intensity light that are substantially diminished and (2) using projected light being received directly.

Applicant's Claim 1 is superior as the system provides highly reliable results because our system uses segments of field of view in which direct reflections of the headlight beam do not appear and direct projections do appear. See paragraph 32, line 2. In contrast, the Ng reference simply uses an intensity gradient in the region of interest. This is not "a region where the reflections are substantially diminished" as required in Claim 1, in fact it is a region where a system receives both intense light from both the reflection and the headlight, and where detection errors may occur. Independent Claim 1 is patentable over Ng. Claims 2-6, 25 and 28 depend from independent Claim 1 and are patentable as these claims depend from independent Claim 1.

Claim 12 is also patentable as Ng does not disclose or suggest a method of detecting a vehicle where the recognition zone corresponds to (1) reflected light received from a reflection area of the roadway that is illuminated by the narrower segment of higher intensity light being substantially diminished and (2) projected light being received directly. Therefore, independent Claim 12 is patentable over Ng. Claims 13-17 and 30-32 are also patentable for at least the same reasons discussed above for Claim 12.

Ng also does not disclose or suggest distinguishing vehicles from reflections based on tracks of the illumination patterns in the series of images. Ng discloses deriving an intensity profile in one dimension and that reflected light has duller peaks, which distinguish from the sharper peaks coming from the headlight. Tracks denotes a two dimensional detection. Therefore, Ng does not disclose or suggest tracks as claimed in Claim 22. Claims 23-24 are patentable as these claims depend from independent Claim 22. Claim 33 is patentable for reason

similar to those argued above for Claim 22. Therefore, Claim 36 is patentable as it depends from Claim 33.

Ng also does not disclose or suggest independent Claim 37 in that Ng does not disclose or suggest distinguishing each illumination pattern based on a length of the one or more tracks. In contrast, Ng discloses deriving an intensity profile in one dimension and that reflected light has duller peaks, which distinguish from the sharper peaks coming from the headlight. Tracks denotes a two dimensional detection. Reconsideration and withdrawal of the rejection of Claims 38 and 40 are requested as these claims depend from independent Claim 37.

Rejection under 35 U.S.C. § 103(a)

In the Action, Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ng in view of Cucchiara *et al.*, *Vehicle Detection under Day and Night Illumination*, Proceedings of Third International ICSC Symposium on Intelligent Industrial Automation (IIA 1999) (hereinafter "Cucchiara"). Claim 7 depends from independent Claim 1. Ng, Cucchiara, and the combination thereof do not disclose or suggest independent Claim 1.

Cucchiara discloses a vehicle detection method. Cucchiara discloses imposing a mask on an area for forming an inspection zone. A luminance gradient is formed. Thereafter, a moving object is labeled if the moving object's size in pixel is counted in accordance with a scene calibration. However, at night, vehicles are determined receiving images of pairs of headlights. A morphological analysis is taken into account of the detected image.

Final verification of the images can be based upon a correlation between the same pair of headlights by matching luminance values for each one of the pair along a normal axis. However, Cucchiara also discloses that disturbing beam reflections should be eliminated. This is a

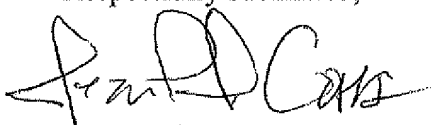
teaching away statement relative to the hypothetical combination of the references to yield independent Claim 1. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

One of ordinary skill in the art would not modify Ng as suggested by the Examiner since, Cucchiara describes eliminating beam reflections and only using the light projected from the headlight pair. Cucchiara also describes reflections as "disturbing". The Office is incorrect to combine these two references as they teach away from one another.

Claim 1 requires taking into account the reflections, and is necessary for the system of Claim 1. Therefore, Ng, Cucchiara, and the combination thereof do not disclose or suggest a recognition zone corresponding to a segment of a field of view of the camera wherein (1) reflected light is received from reflection areas that are illuminated by the narrower segments of higher intensity light and which are substantially diminished and (2) the projected light from the headlights is received directly. Therefore, independent Claim 1 is patentable over Ng, Cucchiara and the hypothetical combination thereof. Reconsideration and withdrawal of the rejection of Claim 7 is requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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